Amendments to and Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Currently Amended) An implantable lead for use with electrical stimulation, the lead comprising:

a flexible carrier having a proximal end, a distal end, a medial side and a lateral side;

a distal, pre-curved lead section having memory;

a plurality of electrode contacts embedded at the distal end of the lead, which electrode contacts comprise an electrode array;

a plurality of conductor wires embedded in the carrier, each conductor wire connected to at least one electrode contact; and

a longitudinal stylet insertion channel in the carrier extending into at least a part of the distal, pre-curved lead section,

wherein the conductor wires are zigzagged conductor wires.

Claim 2 (Original) The lead of claim 1, wherein the electrode contacts and connected conductor wires are pre-bent to a desired pre-curvature before the flexible carrier is molded over the electrode contacts and conductor wires.

Claim 3 (Original) The lead of claim 1,

wherein the distal, pre-curved lead section is dimensionally pre-curved to conform to about one spiral turn in a human cochlear duct; and

wherein the distal, pre-curved lead section has a curvature, taper and size to provide medial contact with the cochlear duct.

Claim 4 (Original) The lead of claim 1,

wherein the lead has a distal part that is substantially hooked shaped and has a spiral curvature dimensioned to conform to a human cochlear duct and also to provide lateral contact with this cochlear duct; and

wherein the distal, pre-curved lead section is dimensionally tapered and sized so that the electrode array can be implanted to exceed about 1 turn inside the cochlear duct.

Claim 5 (Original) The lead of claim 4, wherein the distal lead is dimensionally tapered and sized so that the lead can be implanted no greater than about 2 turns inside the cochlear duct, which duct is the scala tympani.

Claim 6 (Original) The lead of claim 4,

wherein the most distal tip of the lead that includes a subset of the electrode array is constructed as a super-flexible tip; and

wherein the super-flexible tip does not include the stylet insertion channel and which super-flexible tip has a substantially smaller thickness than the remainder of the distal lead containing the electrode array that is not super-flexible.

Claim 7 (Canceled)

Claim 8 (Original) The lead of claim 1, further comprising an overmold which caps the opening of the stylet channel and wherein the overmold has a slit opening.

Claim 9 (Original) The lead of claim 8, wherein the overmold has a cross-configured slit for allowing an insertion stylet to be inserted into the stylet insertion channel.

Claim 10 (Currently Amended) ~~The lead of claim 8, further comprising:~~ An implantable lead for use with electrical stimulation, the lead comprising:

a flexible carrier having a proximal end, a distal end, a medial side and a lateral side;

a distal, pre-curved lead section having memory;

a plurality of electrode contacts embedded at the distal end of the lead, which electrode contacts comprise an electrode array;

a plurality of conductor wires embedded in the carrier, each conductor wire connected to at least one electrode contact;

a longitudinal stylet insertion channel in the carrier extending into at least a part of the distal, pre-curved lead section,

a pin plug which has a head and a curved tail pin, which pin plug is dimensioned and configured to permit the pin plug to be inserted head first into the overmold slit opening to seal the slit opening; and

an overmold which caps the opening of the stylet channel and wherein the overmold has a slit opening,

wherein the overmold has a cross-configured slit for allowing an insertion stylet to be inserted into the stylet insertion channel.

Claim 11 (Currently Amended) ~~The lead of claim 8, further comprising:~~ An implantable lead for use with electrical stimulation, the lead comprising:

a flexible carrier having a proximal end, a distal end, a medial side and a lateral side;

a distal, pre-curved lead section having memory;

a plurality of electrode contacts embedded at the distal end of the lead, which electrode contacts comprise an electrode array;

a plurality of conductor wires embedded in the carrier, each conductor wire connected to at least one electrode contact;

a longitudinal stylet insertion channel in the carrier extending into at least a part of the distal, pre-curved lead section,

a malleable ring in the lead carrier encircling the slit in the overmold, which malleable ring can be crushed around the slit to provide a compressive seal to the slit; and

an overmold which caps the opening of the stylet channel and wherein the overmold has a slit opening,

wherein the overmold has a cross-configured slit for allowing an insertion stylet to be inserted into the stylet insertion channel.

Claim 12 (Original) The lead of claim 1, wherein at least part of the stylet insertion channel is formed by incorporating a tube into the lead, wherein the tube is made from a different material than the carrier.

Claim 13 (Original) The lead of claim 12, wherein the tube is a Teflon (PTFE) tube.

Claim 14 (Withdrawn) A method of manufacturing an implantable stimulating lead comprising:

(a) attaching a plurality of inert electrode contacts onto chemically dissolvable strip substrate having a first, distal end and a second, proximal end;

(b) coupling each electrode contact to a conductor wire to create an electrode array assembly;

(c) attaching the first, distal end of substrate to a revolving dowel, which dowel is integrated into a mold having a cavity, the dowel placed inside the cavity;

(d) attaching the proximal, second end of the substrate to a restraint which applies tension to the electrode array assembly ;

(e) turning the dowel to create a predetermined curvature on the distal end of the electrode array assembly;

(f) delivering a body-compatible carrier material into the cavity and around the electrode array assembly to create a carrier/covering;

(g) releasing the formed lead from the mold; and

(h) applying a weak acid and heat to the chemically active substrate to dissolve away the substrate and expose the inert, electrode contact on the surface of the lead.

Claim 15 (Withdrawn) The method of claim 14, further comprising:

between the step (e) and (f),

(e1) placing a mandrel into the cavity, oriented approximately parallel to the electrode array assembly, wherein one end of the mandrel is situated to escape coverage by injected carrier material; and

and after the step (g),

(g1) pulling the mandrel out of the carrier to create a stylet insertion channel with a channel opening on the lead.

Claim 16 (Withdrawn) The method of claim 15, further comprising the step:

(i) attaching an overmold over the opening of the stylet insertion channel, which overmold has a slit opening.

Claim 17 (Withdrawn) The method of claim 14, further comprising:
between the step (e) and (f),
(e1) placing a mandrel inside the lumen of a thin-walled Teflon tubing;
(e2) placing the combination of the Teflon tubing with the inserted mandrel inside the tubing into the mold cavity, the combination oriented approximately parallel to the electrode array assembly, wherein one end of the mandrel is situated to escape coverage by the delivered carrier material; and
and after the step (g),
(g1) pulling the mandrel out of the Teflon tubing to create the stylet insertion channel.

Claim 18 (Withdrawn) The method of claim 17, wherein the mandrel is made of Teflon.

Claim 19 (Withdrawn) The method of claim 17, further comprising the step:
(i) attaching an overmold over an opening of the stylet insertion channel, which overmold has a slit opening.

Claim 20 (Original) A method of implanting an implantable stimulation lead having an insertion stylet channel with a channel opening on the lead body, the method comprising:
(a) implanting the lead using the stylet;
(b) withdrawing the stylet from the lead; and
(c) capping the insertion stylet channel opening.

Claim 21 (Original) The method of claim 20, wherein capping the channel opening is accomplished by taking a pin plug, having a head and curved pin, and inserting the head of the pin plug into the lead to seal the channel opening.

Claim 22 (Original) The method of claim 20, wherein capping the channel opening is accomplished by providing a malleable ring in the lead body which encircles the channel opening and crushing the ring to seal the channel opening.

Claim 23 (Original) A cochlear lead system comprising:
a cochlear lead including:
a flexible carrier having a proximal end and distal end;
a stylet insertion channel incorporated into the flexible carrier; and
an electrode array placed on the distal lead end;
a pin plug for capping the insertion stylet, the pin plug having a head and tail pin with a curvature in the tail pin; and

an insertion tool which has a first end and second end, wherein the first end has a pin plug holding channel that accommodates the tail pin and holds it within the holding channel with a friction fit.

Claim 24 (New) An implantable lead for use with electrical stimulation, the lead comprising:

a flexible carrier having a proximal end, a distal end, a medial side and a lateral side;

a distal, pre-curved lead section having memory;

a plurality of electrode contacts embedded at the distal end of the lead, which electrode contacts comprise an electrode array;

a plurality of conductor wires embedded in the carrier, each conductor wire connected to at least one electrode contact; and

a longitudinal stylet insertion channel in the carrier extending into at least a part of the distal, pre-curved lead section,

wherein the most distal tip of the lead that includes a subset of the electrode array is constructed as a super-flexible tip; and

wherein the super-flexible tip does not include the stylet insertion channel and which super-flexible tip has a substantially smaller thickness than the remainder of the distal lead containing the electrode array that is not super-flexible.

Claim 25 (New) The lead of claim 24, wherein the distal end of the lead is dimensionally tapered and sized so that the lead can be implanted no greater than about 2 turns inside the cochlear duct, which duct is the scala tympani.

Claim 26 (New) The lead of claim 24, further comprising an overmold which caps the opening of the stylet channel and wherein the overmold has a slit opening.

Claim 27 (New) The lead of claim 26, wherein the overmold has a cross-configured slit for allowing an insertion stylet to be inserted into the stylet insertion channel.